

ABSTRACT

A vibro-tactile cutaneous alert stimulation and massaging system for equipment such as a vehicle includes a pad, a heater element, and motorized vibrators in respective regions of the pad; a plurality of vibratory transducers for location relative to plural zones of the seat; a microprocessor controller having program and variable memory and an input and output interface; an array of input elements connected to the input interface for signaling the microprocessor in response to operator input; and a driver circuit responsive to the output interface for producing the power signal separately for each of the transducers. The controller responds to the input elements to activate the transducers in: a massaging mode and an alert mode producing a predetermined sequence of vibro-tactile cutaneous alert stimulation cycles. Additional transducers can be spaced along a restraining seat belt for imparting directionally oriented stimuli warning of an impending collision.